

Make enterprise
systems work
like personal
computer
applications
and preserve
my technology
investment?

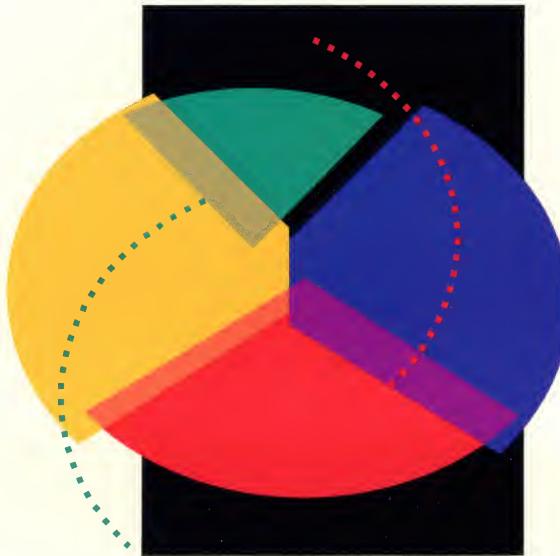
Impossible.



“VITAL provides
a compelling vision
for building distributed
information systems
that enable organizations
to leverage their
information resources
cost-effectively.”

**David Oppenheim
KPMG Technology
Resource Center**

No... VITAL.



The world is changing at a faster pace than ever before, which impacts the way every organization conducts its business. For enterprises to keep abreast of – and benefit from – these changes, IS organizations must provide the information systems to support new and superior levels of performance.

To accomplish this, IS professionals need a framework for building and modifying systems that can accommodate today's changes, and those of the future.

Apple Computer is responding to IS needs with VITAL. VITAL is neither hardware nor software. It's an approach for systems design and integration initially developed by Apple's own in-house IS organization in collaboration with our customers and industry partners.

VITAL serves as a *blueprint* for integrating incompatible systems and applications, and for incorporating the power of desktop technology into enterprise systems. This powerful integration approach helps companies to improve the effectiveness of their people, and advance their

systems without sacrificing existing technology investments.

From the end-user's point of view, the key benefit of an enterprise system designed using the VITAL guidelines is a system that is as intuitive to learn and use as personal computer products. At Apple, this focus on making life easier and better for the people who create and consume information is called "user-centered enterprise computing."

For you, VITAL is the blueprint for building, modifying, and linking applications and data in a seamless manner, and for verifying the integrity of the end result.

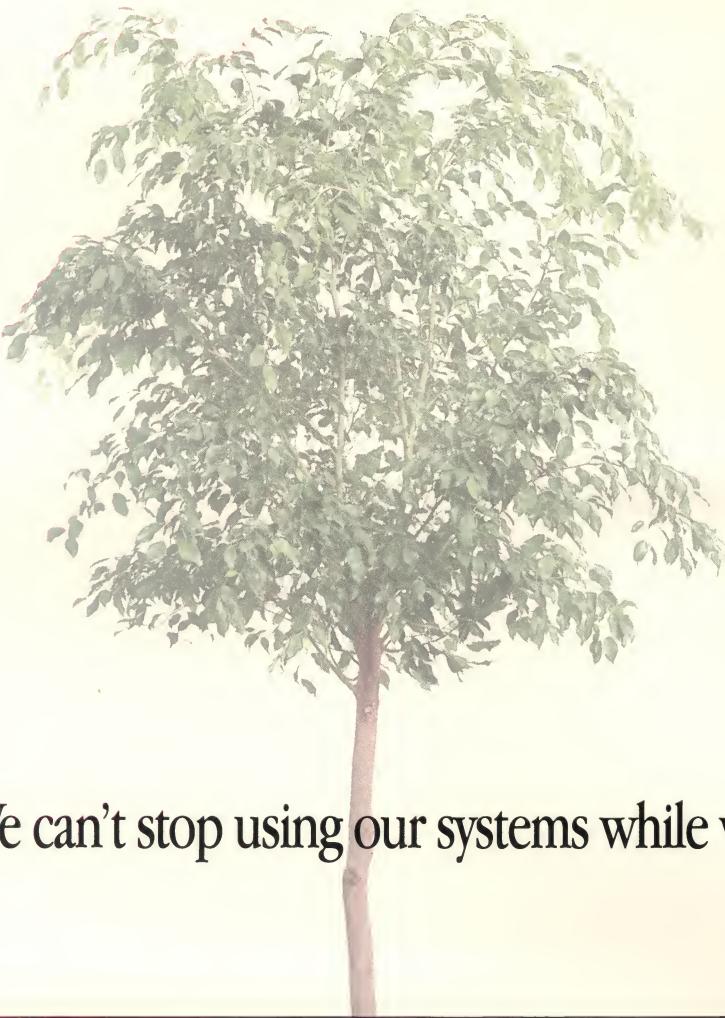


What the VITAL Model Means to Your Organization

What does VITAL mean to your people? To *end-users*, "Virtually Integrated" means that the complexities of using an enterprise system are hidden. Data is consistently easy to access and produce, regardless of what application is used, or where the information is stored.

To the *Chief Information Officer*, a "Technical Architecture" is a blueprint for designing an infrastructure that is platform-, applications-, database-, and systems-independent. Freedom from reliance on a single vendor gives CIOs more flexibility in achieving specific business goals.

To the *IS manager*, "Lifecycle" means supporting the growing and changing needs of users without having to entirely redevelop information systems already in place. VITAL is a modular framework that supports the reuse of existing components.



The VITAL Model of Information Management

The VITAL model divides the world of enterprise systems into five components:

- Desktop Integration
- Data Capture
- Data Access
- Repository
- Systems Infrastructure

Key Principles of Desktop Integration:

This component of the VITAL model addresses the *desktop*, *servers*, and *integration services* of an enterprise system. It focuses on enabling users to access and use information from any location, without worrying about where and how the information is stored. It also stresses the importance of allowing users to experience the enterprise system as an extension of the desktop. The complexity of the underlying enterprise systems infrastructure is hidden from view.

"We can't stop using our systems while we rebuild them... VITAL shows us how to

VITAL

Technical Architecture Lifecycle



Key Principles of Data Access:
The Data Access component focuses on *retrieving and viewing information* from diverse sources. It guides the information distribution process and shows how to structure your environments to share common data across systems. In particular, it specifies the need to create a network of shared data warehouses which ensures data is accurate, consistent, and maintained at the lowest level of detail needed to support decision making.



Key Principles of Data Capture:
In the VITAL model, Data Capture addresses the *data creation or writing* process. To optimize user efficiency, it specifies how to separate data creation and updates from data analysis and reporting. It also advocates creating standard client/server methods of transaction processing, and supports online access to operational data. Another key principle – one that is common to all VITAL environments – is to build consistently modularized systems which can be shared and reused.



Key Principles of the Repository:
The Repository component is like a reference source that ensures users have *common definitions, control data, and services*. It documents the what, where, when, and how of data and systems. The Repository specifies the need to create a single source of active and easily accessible metadata. It also ensures that all data updates are valid and made only by authorized sources.



Key Principles of Systems Infrastructure:
Systems Infrastructure addresses the *operating systems software, hardware, and support organization*. It specifies the need for a framework of computer operations, network resources, and a set of utility services which support the other four environments. It also addresses the need for adequate security of the business information assets.

to migrate systems incrementally, with payoffs at each step.”

Stephen Genco
Departmental Services Group
Stanford University

The VITAL Model Supports A Cooperative, Multivendor Environment

Apple's strength within the VITAL model is Desktop Integration. Our expertise is in showing you how desktop systems fit into your enterprise and add value throughout your organization. Though our emphasis is on the desktop, we will be working on our own and with third-party partners to supply products, services, and server technology to facilitate the other four VITAL components.

Because VITAL is an open architecture and platform independent, it supports implementing enterprise systems in a cooperative environment. The benefit to your company is freedom from exclusive reliance on one platform vendor.

How the VITAL Framework Fits Into Your Global IS Environment

The VITAL model, which Apple calls a technical architecture, is just one part of your overall information systems architecture. Typically, IS architectures consist of four complementary components. To build an information system with the integrity to accommodate growth and change, it's important to understand how these components work together for seamless integration.

The four components are:

- *Business Architecture* – describes how a business is organized and operated.
- *Systems Architecture* – shows how application systems will interact with one another.
- *Technical Architecture* – illustrates via a platform-independent, modular framework how to build systems in a consistent, flexible way.
- *Product Architecture* – shows how specific vendor products, tools, and services for developing and running applications subscribe to the technical architecture.

The benefit of a technical architecture such as VITAL is that it gives you a common framework for building and modifying systems on an "as needed basis." To meet changing demands, you can develop an individual system that can be shared and integrated without having to first develop a master plan.

The VITAL Model Helps Organizations Grow and Change – And Increase Their Return On Technology Investments

It seems like a contradiction. How can a company respond to changing user needs, add new systems and applications, and get more value out of the technology it has in place?

The modularity inherent in the VITAL approach enables your company to migrate to new systems while preserving much of the installed software and hardware. VITAL-based systems fit with and add value to the network, database, and dictionary/

repository environments you may already have in place. In addition, VITAL complements other major architectural approaches – including IBM's Systems Application Architecture (SAA), Digital's Network Application Support (NAS), and OSF's DCE – by helping them to incorporate a powerful, user-centered desktop environment.

Another key benefit of the VITAL framework is that it provides a set of decision rules and templates to help you determine the most economical way to collect and distribute information. For example, depending on where the information is created and who needs to access it, some information may be more economically stored on LANs than on host systems.

By incorporating VITAL principles into your enterprise systems, you'll benefit from:

- Greater IS responsiveness to changing business needs.
- Better business decisions due to more timely information delivery.
- Maximum information sharing at optimal cost.
- Virtual systems integration across different client and server platforms.
- More rapid and less costly application development due to reusable modules and services.
- Reduced application-specific training costs.
- Effective use of lower-cost computing power on the desktop.
- Enhanced user satisfaction due to increased desktop power and easier access to critical information.

Adapting Versus Adopting VITAL Principles For New and Existing Systems

Apple expects that organizations will "adapt" VITAL rather than "adopt" it. How fast, and to what extent you adapt VITAL principles will vary depending on your company's specific goals, development time, and funding. VITAL is a flexible framework which will grow and change with your enterprise system. Whether you're designing a new system, "reVITALizing" an existing one, or evaluating a new application package, think of VITAL implementation in terms of grey rather than black and white.

Join the VITAL Alliance

The VITAL blueprint will assist you in designing and maintaining an enterprise system that can change with the times. With the ability to integrate incompatible systems and applications, add new products and tools, and reuse existing components, your organization can build a solid foundation for the future.

To obtain *Introduction to VITAL; Designing Systems in the 90s*, the first in a series of VITAL Design Guides, in the U.S. call **1-800-635-9550, ext. 502**. In our multivendor world, share your VITAL information with others. It's part of the VITAL spirit – a spirit that is catching on among our corporate, government, and higher-education customers around the globe.

“The VITAL architecture
offers great promise
as a foundation for
parts of our application
reconstruction projects.”

**Michael Gero
I/S Business Markets Software
Liberty Mutual Insurance**